

IN THE CLAIMS

1. (Currently Amended) A process for driving a prime mover, said process comprising

a) positioning a selective membrane between a liquid and a solution having a higher osmotic potential than the liquid, such that the solution becomes pressurised by the influx of liquid across the membrane,

ai) providing a further liquid,

b) transferring the pressure generated in the solution to said further ~~another~~ liquid via a pressure exchange system to drive a prime mover,

c) recovering the solution,

d) separating at least some solvent from the solution to form a residual product, and

e) recycling at least one of the separated solvent and the residual product of step d) to step a).

2. (Original) A process as claimed in claim 1, wherein the prime mover is a rotary prime mover.

3. (Previously Presented) A process as claimed in claim 1, wherein the solution is an aqueous solution.

4. (Previously Presented) A process as claimed in claim 1, wherein the solution is solution of a salt selected from the group consisting of sodium chloride, potassium chloride, potassium nitrate, magnesium sulfate,

magnesium chloride, sodium sulfate, calcium chloride, sodium carbonate, disodium hydrogenphosphate and potassium alum.

5. (Previously Presented) A process as claimed in claim 3, comprising forming the aqueous solution by dissolving ammonia and carbon dioxide in water.

6. (Original) A process as claimed in claim 5, which is an aqueous solution of ammonia, carbon dioxide, ammonium carbonate, ammonium bicarbonate and ammonium carbamates.

7. (Previously Presented) A process as claimed in claim 1, wherein the solution has a solute concentration of 1 to 400 weight %.

8. (Previously Presented) A process as claimed in claim 1, wherein the liquid is selected from the group consisting of freshwater, seawater, brackish water and a waste stream from an industrial or agricultural process.

9. (Previously Presented) A process as claimed in claim 1, wherein the liquid is or comprises the same solvent as the solvent of the solution.

10. (Previously Presented) A process as claimed in claim 1, comprising removing the solvent in step d) by a thermal and/or membrane separation method.

11. (Previously Presented) A process as claimed in claim 11, wherein the solvent is removed using a method selected from evaporation, distillation and crystallization.

12. (Previously Presented) A process as claimed in claim 11, comprising removing the solvent by at least one method selected from multi-stage flash distillation, multi-effect distillation, mechanical vapour compression and rapid spray desalination.

13. (Original) A process as claimed in claim 10, wherein the solvent is removed by at least one method selected from ion-exchange, electrodialysis nanofiltration and osmosis.

14. (Previously Presented) A process as claimed in claim 1, wherein the energy required to remove solvent in step d) is provided by wind power, thermal energy of surrounding environment, solar energy, geothermal energy, energy from a biological process, energy from combustion of fuel and/or excess heat from power plants and other industrial processes.

15. (Previously Presented) A process as claimed in claim 1, including recycling at least some of the solvent recovered in step d) to a liquid for step a).

16. (Previously Presented) A process as claimed in claim 1, which comprises using the pressure generated in the solution to transfer the solution to an elevated location, and using the potential energy of the elevated solution to drive the prime mover.

17. (Previously Presented) A process as claimed in claim 1, including the step of transferring the solution from step a) to an elevated height where the ambient temperature is

(i) low enough to crystallize at least some of the solute in the solution, or

(ii) below the freezing point of the solvent to crystallize the solvent, such that the solution is separated into a portion having a low solute concentration and a portion having a high solute concentration.

18. (Previously Presented) A process as claimed in claim 18, including the step of returning each of said portions to ground level, such that potential energy of each of the portions can be used to drive the prime mover.

19. (Previously Presented) A process as claimed in claim 1, wherein thermal energy required to separate the solvent from the solution is step d) is provided by compression and decompression of gas.

20. (Previously Presented) A process as claimed in claim 1, wherein the selective membrane of step a) has an average pore size of 1 to 60 Angstroms.

21. (Previously Presented) A process as claimed in claim 1, comprising positioning the pressurised solution from step (a) on one side of a further selective membrane, and placing a further solution having a higher osmotic potential than the pressurised solution on another side of the membrane, such that the further solution become pressurized by influx of liquid across the membrane.